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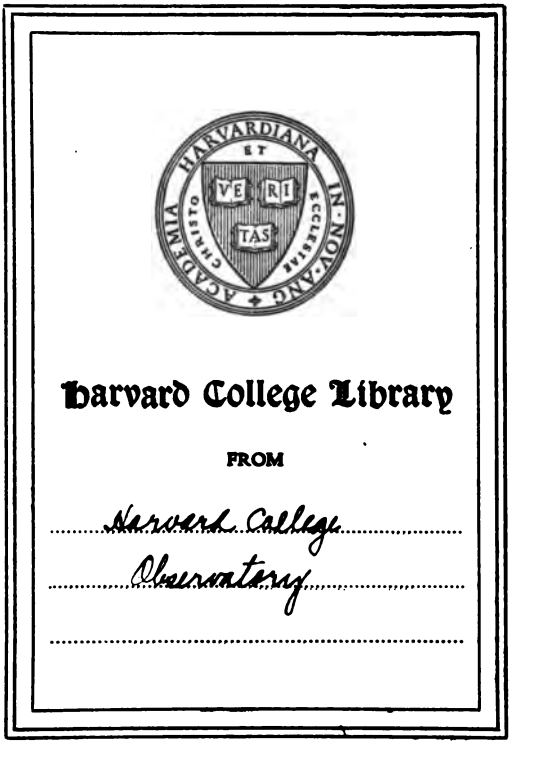

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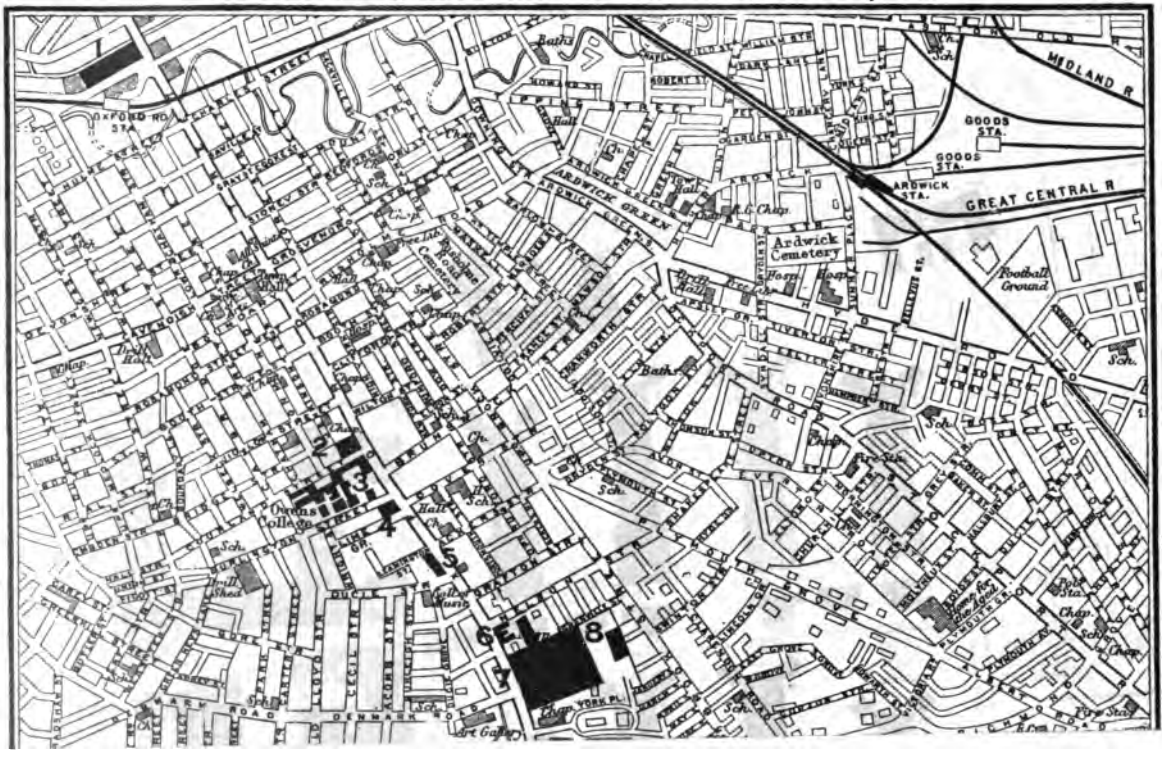

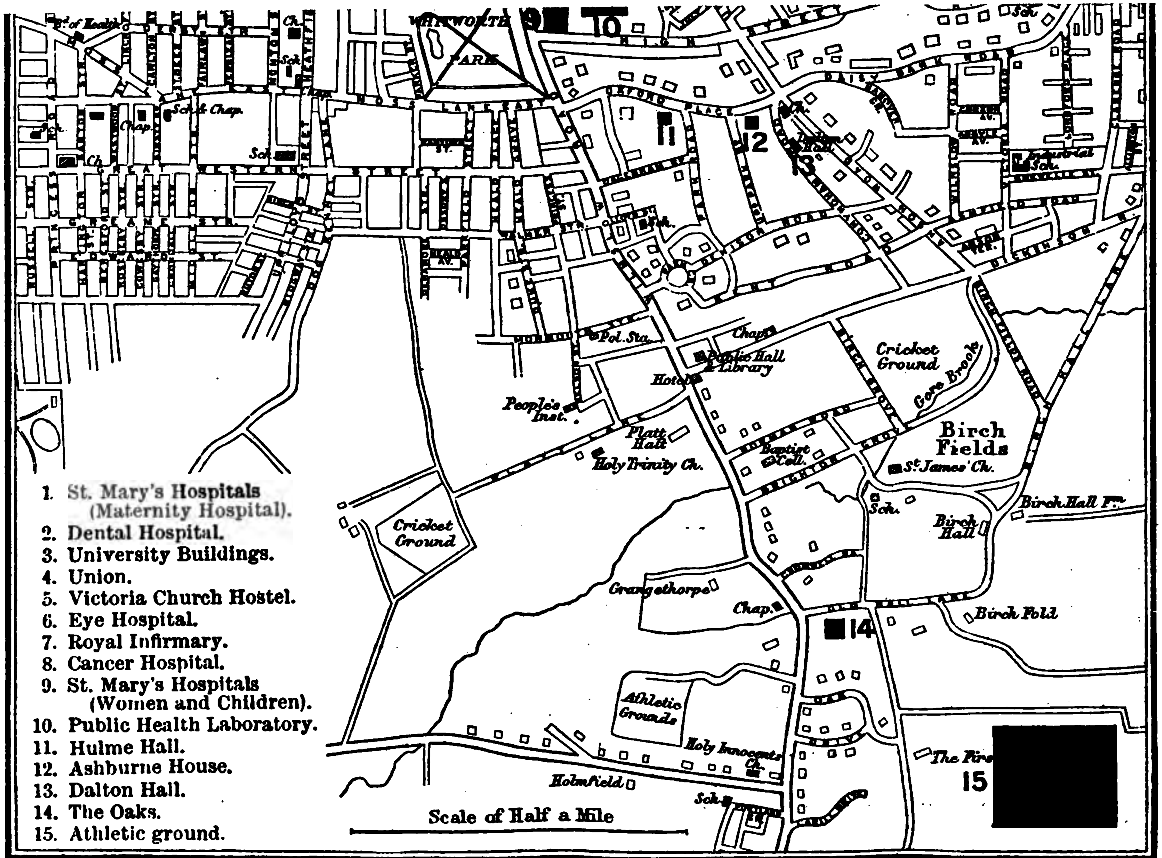

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INTRODUCTION

HISTORY OF THE SCHOOL

THE foundation of the Manchester Infirmary in 1752 was the first incident in the development of the University of Manchester School of Medicine of the present day. In this year Mr. Thomas Bancroft, a prominent citizen, and Mr. Charles White, a young and enthusiastic surgeon, who, as a student in London and Edinburgh, had seen the immense benefit which hospitals were to the sick poor and to the study of medicine, and who had just settled in practice in the town, opened a hospital for twelve patients. So successful was the venture that a larger building had to be provided, and this was erected on the site in Piccadilly where, with its various enlargements, it has been in constant use and known as the Manchester Royal Infirmary until 1908. Whilst apprentices were at once admitted to the practice of the hospital, it was not until 1783 that lectures on the ancillary sciences of anatomy, physiology, and chemistry were delivered under the auspices of the Manchester Literary and Philosophical Society by Charles White, his son Thomas White, and Thomas Henry respectively. The lectures on anatomy and physiology for some reason or other were not a success, and after a couple of sessions were discontinued. But from this date onwards for the next twenty years, other courses on the same subjects were delivered irregularly, the best known lecturers, in addition to Charles White and Thomas Henry, being John Ferriar, Peter Mark Roget, and William Henry, all men whose names are still honoured.

Charles White, who was probably the originator of the Infirmary scheme, was a man of most exceptional parts. A fellow-student and friend of John Hunter, White possessed much of the force of character, enthusiasm for work, and originality of mind of that distinguished man. He may be called one of the founders of the science of anthropometry, and he had visions of the theory of evolution. One of the earliest conservative surgeons, he removed the head of the humerus for caries in 1766, excised the shoulder-joint, and proposed excision of the hip in 1769. He also introduced the use of the dry sponge to arrest hæmorrhage. Famous as an obstetrician, he suspected that puerperal fever was due to absorption of "matter," and that it was infectious. He knew that it was more prevalent and fatal in large cities and crowded hospitals than in places where the air was more open and pure, and he gave definite advice as to treatment with "antiseptics," isolation of the patient, and after-disinfection. His best known medical work was entitled "Phlegmasia alba dolens puerperarum."

The Henrys are better remembered at this date as chemists than as physicians. Thomas Henry, an apothecary, invented calcined magnesia, hence his sobriquet "Magnesia Henry." His son William Henry discovered the law of absorption of gases under different degrees of pressure and temperature.

John Ferriar was a writer and critic of considerable genius, best known for his classical essays on the dramatic works of Massinger and his "Comments on Sterne." To him must be attributed the first published ideas on Boards of Health, from which, in Manchester, resulted the foundation of the House of Recovery or Fever Hospital.

Peter Mark Roget resided in Manchester for three years only, removing then to London, where he became the secretary of the Royal Society, a post which he held for several years. He is best remembered as a mathe-

matician, and for his "Thesaurus of English Words and Phrases," which is still in print and much used.

In 1814 Joseph Jordan taught practical anatomy for the first time in Manchester in a small school in an out-of-the-way street of the town, and his certificates were recognised in 1817 by the Society of Apothecaries.

All this irregular teaching was, however, but a preliminary to the foundation in Manchester of an organised scheme of medical education. This took place in 1824, when Thomas Turner, F.R.C.S., began lecturing in an unpretentious way on anatomy, with John Dalton helping him with a course on pharmaceutical chemistry. The next year the leading physicians and surgeons in the town joined in the teaching, and courses on materia medica, surgery, midwifery, botany, chemistry, anatomy, physiology, and pathology were delivered, medical jurisprudence being taught two years later. Clinical work could be seen in the Infirmary, where clinical lectures were instituted in 1833, at the Lunatic Asylum, founded as part of the Infirmary in 1765, at the House of Recovery or Fever Hospital, at the Lying-in Charity founded in 1790, and at the Eye and Lock Hospitals.

A very important feature in this Manchester School of Medicine was that students were able to dissect on their own account. Mr. Turner, speaking of this, said: "The means of dissection which our school affords gives to it a superiority over the schools of London and Edinburgh. We have never wanted the means; they have. My pupils have dissected until they grew tired of it, the London and Edinburgh pupils have grown tired and disgusted for the want of it." This was the first provincial medical school in England, a fact which was recognised in 1836 by King William, who became its patron, and allowed it to be called the *Manchester Royal School of Medicine;* and so great was its success, that ten other provincial schools, founded within the next few years, were designed on the same plan. In 1825 Mr. Turner asked the College of Surgeons of

London to accept for their diplomas his anatomy certificates instead of those of a London school; but it was not until 1828 that, on the report of a Committee of the House of Commons on the teaching of anatomy, the College conceded this. Before this Committee a great compliment was paid to the Manchester School of Medicine by the Secretary of the Apothecaries' Hall, who stated in his evidence that "no young men came before the Court of the Apothecaries' Hall better qualified in every respect than those who had been entirely educated at Manchester, where excellent lectures in every branch of medicine were given by competent teachers." In spite of this influential testimonial, however, the College of Surgeons, although they recognised the teaching of anatomy at Manchester, would not place the Royal Infirmary on the same footing in the matter of clinical teaching as the London, Dublin, Glasgow, Aberdeen, and Edinburgh hospitals, and accept its certificates for surgical instruction, and yet at this time the Manchester Infirmary had a larger number of patients than either St. Bartholomew's or St. Thomas's Hospitals, which were two of the largest London hospitals. The desired recognition for clinical teaching was eventually granted on the report of another Committee of the House of Commons on medical education in 1834, which reflected adversely on the policy of the Council of the College of Surgeons in the matter of these certificates of clinical instruction in the subjects of their examinations.

The success of the Royal School of Medicine brought about the formation of other rival schools in the town, all of which were, however, but short-lived.

The Owens College.—A most important epoch in the history of the school of medicine was its amalgamation, in 1872, with the Owens College, an institution which was founded under the will of a Manchester merchant, John Owens, who died in 1846, leaving for this object the sum of £96,000. The Owens College, which, like the medical

UNIVERSITY BUILDINGS. MANCHESTER MUSEUM

MEDICAL SCHOOL BUILDINGS

school, began in 1851 in a small way, was so successful that it became necessary to remove it to more commodious quarters, and these were erected on a portion of the land on which the huge pile of University buildings now stands. When the terms of amalgamation were settled, buildings for the medical school were erected and were ready for occupation in 1874. At this date 112 students were on the register of the Royal School of Medicine, and after the amalgamation so rapidly did the numbers increase that it was found necessary to provide additional accommodation, which was ready in 1884.

The rapid increase in the number of students from 112 at Pine Street in 1871 to 220 at Owens College in 1880, to 328 in 1889, and to still larger numbers subsequently, was undoubtedly due to the co-operation of medicine with other sciences, which enabled the Owens College authorities to obtain the services of the most eminent teachers in those preliminary scientific subjects which concerned medical students, and yet at a less cost per head of all students than if the mutually advantageous amalgamation had not taken place. Then again it was found to be absolutely necessary for one man to devote the whole of his time to teaching anatomy or physiology—it could not be done by a practising physician or surgeon snatching a few hours from a day otherwise busily occupied.

The Victoria University.—What proved to be another great impetus to the growth of the medical school was the raising of the Owens College to the rank of a University with power to grant degrees. The charter was ratified on the 20th April 1880, and was followed by a supplementary charter in 1883 conferring power to grant medical degrees. University College, Liverpool, and Yorkshire College, Leeds, were subsequently admitted as colleges of the University. The effect which this important privilege had on the growth of the medical school was remarkable, for although it had only taken eleven years for the original number of students to double

itself, about 111 more, making 323 in all, were registered in the session 1885–1886. In consequence of this large increase in the number of students, still further buildings were necessary, and these, designed on a large scale, and opened in 1894, form the present school of medicine. In them accommodation was also provided for the dental students of the district, and powers were granted to issue both degrees and diplomas in Dentistry and Public Health, and diplomas in Veterinary State Medicine.

In addition to the extensive enlargements at the medical school, it has been necessary to increase considerably the accommodation for patients and students in the Infirmary, and the magnificent new hospital which resulted from the most careful consideration of this question, and which is described on a later page, was opened in 1908.

The Victoria University existed with a federal constitution until 1903, when new charters were granted to the federated colleges constituting them independent universities, Manchester taking the title of the Victoria University of Manchester.

THE VICTORIA UNIVERSITY OF MANCHESTER

COURSE OF STUDY

THE resources of the University of Manchester for educating students, both *men* and *women*, for the medical profession might be described in several ways, but the best for the present purpose, and the one adopted here, is to follow throughout his University career an undergraduate who is taking the degree of Bachelor of Medicine and of Surgery of the University, which qualifies him to practise in medicine and surgery.

The **Matriculation Examination** is generally passed from school, but if it be not taken then, special classes in preparation for it are held on the arts and science side. The University will grant exemption from it to graduates of any University of the United Kingdom, provided Latin has formed part of one of the degree examinations; to holders of honours certificates in the Universities of Oxford and Cambridge, under certain conditions; and to persons who have passed the London matriculation examination, provided all subjects required by the General Medical Council were included. The Manchester Matriculation is accepted by the General Medical Council, provided that Latin and either Greek or a modern language have been included, and by the Pharmaceutical Society, provided that Latin and a modern language have been included.

We will assume that the student has matriculated, and that he is ready to commence his five years' course

of study for his qualifying degree. He has then before him four examinations known academically as the first, second, third, and fourth respectively.

One of the essential requirements for a medical school is a *thoroughly adequate scientific department*, and in this respect Manchester is unexcelled by any other school in the kingdom. The University Council spares no expense to provide adequate accommodation and efficient teaching for the large number of students who yearly enrol their names on its books, and some idea of the extent of the buildings may be conveyed by the fact that, when the British Medical Association met in Manchester in 1902, the whole of the seventeen sections, the public lectures, and the business departments of the Association except the museum, were easily housed within the walls of the University.

Early in its career the Owens College became widely famous for its scientific teaching, and men were attracted from all parts of the world to study chemistry under Roscoe and Schorlemmer, botany under Williamson, physics under Balfour Stewart, and biology under Milnes Marshall; and as evidence of the fact that the reputation of the school is fully maintained at the present day it may be stated that students from countries as far away as Japan, Siam, India, Australia, South Africa, and the Americas, are drawn to Manchester to study science and medicine.

Science Degrees.—As medicine is a study which depends for its successful prosecution on a good preliminary scientific grounding, any student who can spare the extra one or two years necessary, and who has the means, would be well-advised to take such a course as the Bachelor of Science Degree in chemistry, physics, biology, and physiology before beginning his purely medical education. The knowledge which he would thus gain would be of immense value to him in his later studies and work in life.

First, or Preliminary Scientific Year

Winter . . . . . *Chemistry, Physics, Biology.*
Summer . . *Chemistry, Physics, Biology, Osteology.*

FIRST EXAMINATION in *Chemistry, Physics, and Biology.*

This first year of study is usually known as the "preliminary scientific" year, comprising as it does the subjects of chemistry, physics, and biology, and the courses for it are taken out in the various departments on the science side of the University.

Chemistry.—The chemistry department will always have honourably associated with it the names of Thomas and William Henry, John Dalton, Angus Smith, Henry Roscoe, and Carl Schorlemmer. John Dalton, an obscure Cumberland village schoolmaster, originally came to Manchester from Kendal by invitation in 1793 to teach mathematics at the Manchester Academy, a Unitarian institution in the town. He and the Henrys founded the school of chemistry, and medical students were specially fortunate in having such men of genius to instruct them in the therapeutical aspects of the science. Other able chemists succeeded, and in 1857 Roscoe became professor in the Owens College, and in 1874 Schorlemmer was elected to the chair of organic chemistry, the first appointment of the kind in the country. Under the guidance of these two men, and with its commodious and complete laboratory equipment, the school of chemistry at Owens College began to make that great reputation which attracted, and still attracts, to it in growing numbers students from all over the world.

It is in such an efficient department that medical students receive their instruction in chemistry, courses being specially arranged for their requirements. The lectures are delivered in the large chemical theatre,

which has seating accommodation for 600 students; and the practical analytical work is carried out in the extensive Roscoe laboratories.

Physics.—The new physical laboratories, which were opened in 1900, are amongst the largest and best equipped in the country, and the study of the elements of acoustics, light, heat, magnetism, and electricity is carried out in them by means of lectures and practical work. The requirements of a medical man influence the course of studies pursued, and special attention, therefore, is paid to the principles underlying the structure of optical instruments, such as the microscope and ophthalmoscope, which are used in the diagnosis of disease, and to the various kinds of electricity, including the production of x-rays, which play such an important part in medicine and surgery at the present day.

Biology.—The biological class-rooms and laboratories are situated in the handsome Beyer building overlooking the quadrangle, and are in direct communication with the Manchester Museum, which forms the frontage of the University buildings, and which is rich in specimens by means of which the natural history lectures are instructively illustrated. Both the zoological and botanical departments have extensive laboratories which are all well lighted, so that microscopical work can be carried out in them under most advantageous conditions.

First Examination

This is divided into two parts: Part I., Chemistry and Physics; Part II., Biology. Each part may be taken separately, and a candidate who has passed well in one subject of Part I., and who has obtained not less than a certain minimum of marks in the other subject, may enter separately for such other subject in a subsequent examination. This last regulation is somewhat of a new departure, which has been adopted after a long experience of the results of examining candidates. It

PHYSICS LABORATORY

BIOLOGICAL LABORATORY

has been found to answer well in the training of students, for it in no way impairs the knowledge acquired, and does not delay unreasonably a man who has done well in one subject, but has not satisfied the examiners in the other subject. The same principle is applied to the later examinations also. Although it is thus possible to divide the first examination, the two parts are usually taken together, the examinations being held in June and September.

Second Year

Winter . *Anatomy, Physiology and Histology.*

Summer . *Anatomy, Physiology and Histology.*

The importance of a thorough knowledge of anatomy and physiology in the training for the diagnosis and treatment of disease is so great, that, in many schools, two winter sessions and one summer session, or five terms in all, are devoted to these subjects. On the other hand, the requirements of examining boards for attendance on clinical teaching, especially for the special subjects, have recently increased so much that there was scarcely enough of the five years left for obtaining the purely professional education, and the University of Manchester has recognised this fact and met it by completing the anatomy and physiology courses in four terms, so that students may commence their hospital work three months earlier than they used to do.

Anatomy.—If there is one point which stands out most prominently in the many conspicuous recommendations of the Manchester medical school, it is the wealth of material—anatomical, pathological, and clinical—at the disposal of the teachers, and this has been a characteristic feature during the whole of its career. One of the greatest difficulties of medical schools is to obtain a sufficient supply of subjects for dissection, but

this has never been felt at Manchester. In our account of the growth of the medical school we referred to Mr. Turner's statement on the same subject, and what was true in his day is equally true now. There is accommodation in the dissecting room for 250 students, and the women students have a special room to themselves. Whilst actual dissection is carried out in such a thorough way, it is further supplemented by a very efficient system of lectures and tutorial classes, and by facilities for studying mounted specimens in the bone room and in the museum.

Physiology.—The department of physiology and histology is most thoroughly equipped with special laboratories for each of the branches of physiological chemistry, experimental physiology, and histology. The last-mentioned room is the finest of the many fine laboratories in the University. It has benches on its floor space for 120 students and accommodation in the gallery for 40 more, and is most efficiently lighted from three sides and the roof, so that the microscopes can be adequately illuminated from sources independent of the position of the adjoining workers. The organisation of the whole course of physiology is most elaborate and thorough, and is so arranged that the practical work in the laboratories, which is part of the regular course, forms a necessary complement to the theoretical instruction of the lectures, which, however, are themselves fully illustrated by experiments, apparatus, and models. In the histology class instruction is given in the principles of section preparing, and specimens of all the different tissues and organs in the body are provided for the students, who stain as many as possible themselves, and mount all in the various media required by the different methods of staining.

In the practical physiology class the students mount for themselves nerve, muscle, and other kindred preparations, and learn those essentials of physiological chemistry which they will require afterwards for clinical purposes.

Third Year

Michaelmas Term. *Anatomy, Physiology and Histology.*

SECOND EXAMINATION in *Anatomy, Physiology and Histology.*

Lent Term . . *Pharmacology and Therapeutics, Pathology and Practical Surgery.*

Lent Term . . *Clinical Work at the Infirmary begins.*

Third Summer . *Practical Surgery, Pharmacology and Therapeutics, Practical Pathology, Hygiene, Clinical Work.*

THIRD EXAMINATION in *Pharmacology and Therapeutics and Hygiene.*

SECOND EXAMINATION

The student who is reading for his degree in the University of Manchester will, in the Michaelmas term of the third winter, take his second examination. This comprises the subjects of anatomy and physiology, and whilst both must be taken together, candidates are allowed to pass separately in either subject, provided they have done well in this subject and have obtained a certain minimum of marks in that in which they fail. The subject failed in can be taken separately at a subsequent examination in March.

The *more purely medical work,* both at the University and at the hospitals, now begins, with the courses on pharmacology and therapeutics, practical surgery and pathology at the former, and with elementary clinical medicine and surgery at the hospital.

Pharmacology and Therapeutics (including **Materia Medica and Practical Pharmacy**).—The name of Leech

will always be honourably remembered in this department, not only by the association of his name with the chair of this branch of medical science, for the endowment of which he left a considerable sum of money, and with the research library founded in his memory, but also by the years of enthusiastic work which he devoted to its development. In the materia medica museum are collected together typical specimens of all official pharmacopœial drugs, so arranged that students can handle them and make themselves familiar with their distinctive features, as described by their teacher or in their text-books. In glass cases there are also unusually fine "museum" specimens of both official and non-official drugs, and in cabinets are collections of non-official drugs from all parts of the world.

Materia medica, pharmacology and therapeutics are taught in two consecutive terms. In the first course the student receives that important knowledge of the various official drugs and of their action on the different tissues and organs of the body, so essential to him in his clinical work which he is now beginning to study at the hospitals. When a knowledge of the medicines themselves has been acquired, in the subsequent course on general therapeutics the various other methods of relieving or curing disease are considered; thus the therapeutic uses of climate, diet, rest, exercise, electricity, cold and heat (including baths), drugs, and surgical measures, receive full consideration in this course.

Practical Pharmacy.—In the laboratories of the department the student is taught to perform for himself chemical tests to identify important drugs, and determine their purity, and also the methods of making the various pharmaceutical preparations, including compressed pellets and capsules, now so popular and useful as convenient forms of administering medicines. Here also he learns how to write and read prescriptions, and to compound mixtures, ointments, lotions, &c., and to dispense them in a fit and proper manner.

HISTOLOGICAL LABORATORY

PATHOLOGICAL LABORATORY

Advanced Courses on the analysis of food materials and drugs are arranged for those who are preparing for the work of public analysts.

Pathology forms the most fitting introduction to clinical work, as it is the science which deals with those departures from the normal or physiological processes of the body which constitute disease. The pathological department at Manchester is one of the oldest of its type in the kingdom, for Dreschfeld formed a laboratory and was teaching the subject practically at Owens College in 1876. The department is now organised on as big a scale as in any other British medical school. Material for it comes regularly from four hospitals, and many specimens of special interest from several others. The museum is rich in preparations which have been collected over many years, and which are arranged and labelled on the Dewey decimal system, by means of which the student can tell at once, on reference to the printed catalogue, all the points which the specimen is mounted to show. Moreover, the specimens are prepared by the Kaiserling process, by which they retain permanently their natural colours and appearance. The lot of a student preparing for an examination is consequently a much easier one than was that of his father, who had nothing but variations of indefinite shades of colour to help him in his identification of pathological specimens.

Then again, not only has he this advantage in the natural colour process of specimen-keeping conferred on him, but he also has at his service, in the general theatre, the epidiascope—an elaborate electric-arc lantern —by means of which images of specimens, lantern slides, photographs, &c., which are being discussed by the lecturer can be thrown on the screen, so as to be visible to all in the theatre at once, and the point of interest then engaging attention demonstrated. The advantage of this method of showing specimens to a class over that of handing them round for individual inspection is

obvious. With the epidiascope the lecturer can demonstrate on the screen first a museum specimen preserved to show the naked eye and natural colour appearances of, say a tuberculous lung, then a lantern slide of the microscopic anatomy, then for contrast any plates from books which may further illustrate the point engaging the attention of the class.

The course in **Practical Morbid Histology and Pathology** is taken in the extensive pathological laboratories. In this course the student receives and mounts sections of all the typical morbid growths, and receives instruction in the elements of bacteriology.

Practical Surgery.—The first part of this course includes the subjects of surgical anatomy, fractures, and dislocations, the full course being completed later by the operative surgery class.

CLINICAL WORK

The Manchester Medical School is particularly fortunate in the amount of clinical material at its disposal for teaching purposes. The hospitals which are recognised by the examining bodies as meeting their requirements for clinical attendance are the Manchester Royal Infirmary, the Monsall Fever Hospital, and the St. Mary's Hospitals for medical and surgical degrees, and the Dental Hospital for dental diplomas and degrees. But during their course of study students also attend for instruction in special subjects at the Children's Hospital, the Royal Eye Hospital, the Manchester Hospital for Diseases of the Skin, and the Hospital for Consumption and Diseases of the Throat.

MANCHESTER ROYAL INFIRMARY

At the Manchester Royal Infirmary instruction is given in clinical medicine and surgery, and in the special subjects of diseases of women, of the ear, and

of the throat. Mental diseases are studied at Cheadle Royal, a large branch of the Infirmary where there is accommodation for 350 patients, midwifery at the St. Mary's Hospitals, and diseases of the eye partly at the Infirmary and partly at the Royal Eye Hospital. The patients of the Manchester Royal Infirmary, and indeed of all the hospitals, are drawn from a very wide area, which in places, especially near Manchester, is very thickly populated. Large numbers come from Lancashire, the western parts of Yorkshire, Cheshire, Derbyshire, Staffordshire, Westmorland, and Cumberland, counties which have in all a population of over seven millions. With these wide manufacturing and agricultural districts to draw from, the clinical material of the Manchester Hospitals is of a varied nature, such as will probably not be met with in any other hospital in the British Isles.

The Royal Infirmary has been recently rebuilt in an open and healthy part of the town, within half a mile of the University. The new hospital was built to specifications drawn up with the assistance of the Medical Board, and it may safely be said to be one of the finest hospitals in the world for the treatment and study of disease, and for the instruction of students. The Infirmary is built on the pavilion plan, and has been specially designed with the desire to secure quietness for the patients in the wards, and for the medical and surgical staff in the pursuance of their duties. The blocks of buildings forming the handsome frontage of the hospital provide accommodation for the administrative offices, for students and teaching purposes, and for a nurses' home. In addition to the teaching block in the front, class-rooms and clinical laboratories are provided in all the units into which the pavilions are subdivided; and any important scientific clinical investigations, which may fall within their province, can be carried out in the Public Health Laboratories of the University, which are within one minute's walk of the hospital.

The Royal Infirmary contains in all 592 beds. Of these 20 constitute a gynæcological department, 32 are reserved for special purposes, such as casualties kept under observation in the accident department (4), and isolation block (10), burns (8), and an ear department (10). The 540 remaining beds are allotted as follows: 240 for medical practice, and 300 to surgical practice (180 for men and 120 for women and children). The surgical beds are distributed over five units, each of which has its own operation theatre, with anæsthetising, recovery, sterilising, testing, and apparatus rooms, and its own class-room attached. The medical side also comprises five units, each of which has a testing-room for the scientific investigation of disease, and a class-room.

The accident and out-patient departments are specially suited for the class of work for which they are used, and in the basement of the former block is a long series of rooms for electrical and *x*-ray work, massage, and medicated baths.

The block which accommodates the students provides very handsomely for their wants and comforts, separate suites of rooms being apportioned for the men and women students, and there are also a large common reading-room, a lecture theatre, and a museum.

Clinical Teaching.—During the first three months instruction is given in the elements of medical physical diagnosis, in the uses of the clinical laboratory as an aid to investigating disease, in elementary clinical surgery, in bandaging, and in the use of splints. Dressing in the accident room can also be undertaken, and the pathological demonstrations attended; but until the examination in anatomy and physiology has been passed, none of the appointments necessary for certificates of hospital instruction can be held.

After this preliminary training, the student must, for two periods of three months each, but not consecutive, act as clinical clerk in the medical wards, and for similar

MANCHESTER ROYAL INFIRMARY

MANCHESTER DENTAL HOSPITAL

periods of time as dresser in the surgical wards. These twelve months of a student's clinical training at the Infirmary are, if used aright, most valuable, for more than enough beds are available for each student to have allotted to him as many as he can manage to clerk or dress for satisfactorily. Nothing fixes the characteristic features of disease so much in a man's mind as his own proper observation of patients in bed. The first three months in either surgical or medical wards are necessarily ones of difficulty; with so much to be learned of the art of physical examination, progress in the diagnosis of disease must at first be slow; but the next three months ought to be of great educational value to a student reading medicine and surgery. If the most is to be made of these posts, the student should examine cases for himself, diagnose them to the best of his ability, make out what physical signs and symptoms he can, and then read up at home the disease in question. Next day he can examine the case again, and see whether any points of diagnostic value which are given in his text-books, and which he did not make out on his first examination, are present. Should he have been unable to make a diagnosis himself in the first instance, the qualified staff are always willing to help him. As part of the ward training the honorary staff take their clerks regularly over their cases for the purposes of instruction, and for teaching in note-taking, and each honorary physician or surgeon conducts a ward-class once a week, which all students, not then clerking or dressing, are at liberty to attend. When a student is dressing for a surgeon he is generally called upon to help in operations on the cases under his observation.

Tutorial Classes in medicine and surgery, and classes in surgical anatomy, demonstrations of surgical instruments, splints, and appliances are held by the junior honorary staff for senior students. In the large medical and surgical out-patient department, senior

students can gain valuable experience in the examination and more rapid diagnosis of the class of cases which they meet with more commonly in general practice. Here also they learn much useful information on the treatment of disease.

The wards are also open for two hours in the afternoon for the senior students to have further opportunity of clinical diagnosis, one member of the honorary medical staff, or in his absence, the surgical tutor, being present to afford any assistance which may be required.

Special Subjects are generally studied by the senior students at the Royal Infirmary in one trimestrial period by attending the Out- and In-patient work in the Eye, Ear, Throat, and Gynæcological departments, in all of which there is a large practice at the hospital.

Post-mortem demonstrations are conducted at the Infirmary by the professor of pathology, who has the clinical history of the case before him for the all-important correlation of the pathological changes with the clinical signs of the disease in question. Students are required to attend these demonstrations for six months.

Third Examination (First Part)

The subjects for this examination are pharmacology and therapeutics and hygiene, and they must be taken together in July or December, but candidates are allowed to pass in either subject, provided they obtain good marks in it, and a certain minimum in that in which they fail. The subject failed in can be taken alone subsequently.

Fourth Year

Fourth Winter . . . *Medicine, Surgery, Pathology, Clinical Work.*

THIRD EXAMINATION (Completed) *Pathology.*

Fourth Summer . . . *Obstetrics, Ophthalmology, Mental Diseases, Diseases of the Larynx, Clinical Work.*

Medicine and Surgery.—The teaching of the huge subjects of the principles of medicine and surgery is carried out at the University by means of systematic lectures given by the professors and several lecturers, and by tutorial classes, and is so arranged as to be complementary to the clinical instruction at the Infirmary which is given by the same teachers. The professors of systematic medicine and surgery in the University have the right to at least thirty beds in the Royal Infirmary if they do not happen to be already on the hospital honorary staff when they are appointed to the professorial chairs. The lecturers also, as a rule, are on the honorary staff of the hospital as well, so by means of his ward classes and clinical lectures, a teacher of the principles of medicine or surgery can illustrate his lectures by cases in the hospital. A clinical lecture in medicine and one in surgery is given at the Royal Infirmary every week by the members of the honorary staff in turn. The professors of clinical medicine and clinical surgery also give special lectures on other days in the week in the hospital. Students are required to attend courses in clinical medicine and clinical surgery for two years.

THIRD EXAMINATION (Completed)

The first part of this examination, comprising the two subjects pharmacology and therapeutics and hygiene, was taken in July at the end of the preceding term, and it is now completed by the examination in pathology which is held in December and again in March in this, the fourth year, of study.

Fourth Summer . *Obstetrics, Ophthalmology, Mental Diseases, Diseases of the Larynx, Clinical Work.*

Obstetrics.—The principles of obstetrics are taught at the University on four days a week, with additional demonstrations on preparations and specimens pertaining to the subject, in the fourth summer.

St. Mary's Hospitals.—There are two very fine new hospitals in this Charity, one in the town (100 beds) where students can reside and take out their practical midwifery course, and the other within half a mile of the medical school and adjoining the Manchester Royal Infirmary. This latter hospital, which has 110 beds, provides accommodation for gynæcological cases and for the ordinary medical and surgical ailments of children.

The **Midwifery** training for the Manchester degree is very thorough, as it should be in such an important part of medical practice. Instead of the old custom of attending with the midwives in the home-patient department of St. Mary's Hospitals, the student is required to reside for three months in the Maternity Hospital of the Charity, or in special cases at some approved house near to, and during this time he will be able to see a satisfactory number of ordinary lying-in cases, and also many abnormal or difficult labours, under the skilled supervision and instruction of the resident qualified staff.

ST. MARY'S HOSPITALS (MATERNITY BRANCH)

ST. MARY'S HOSPITAL FOR DISEASES OF WOMEN AND CHILDREN

Whilst residing in the hospital in term time, the ordinary classes in the Medical School and at the Infirmary are attended, so that no time is lost during the midwifery training; and as the fees charged for the three months' residence in the hospital include board and lodging, the plan meets in an economical and time-saving way the demand of many students for this kind of instruction for which they had formerly to go elsewhere.

Diseases of the Eye.—The Royal Eye Hospital has its chief accommodation on land close to the medical school and adjoining the new Royal Infirmary. Here are all the in-patients (160 beds) of the Charity, and also a large out-patients' department. A branch is maintained in the town for the convenience of out-patients for whom the chief hospital is too far away. As there are no beds for diseases of the eye in the Royal Infirmary, the chief part of the clinical instruction in ophthalmology is given at the Eye Hospital, the two institutions being connected by a special passage for the use of students.

The course on **Mental Diseases** is carried out entirely at Cheadle Royal, where lectures and instruction in the filling in of lunacy certificates are given, and cases are shown on twelve afternoons in the session. Situated as the hospital is in the country, some seven miles from Manchester, special arrangements are made for conveyance.

Fifth Year

Fifth Winter . . . . *Medicine, Operative Surgery, Gynæcology, Infectious Diseases, Clinical Work, Vaccination.*

Fifth Summer . . . *Forensic Medicine, Practical Toxicology, Diseases of Children, Skin, Ear, Tropical Diseases, Clinical Work.*

FOURTH EXAMINATION in *Medicine, Surgery, Midwifery, Gynæcology, and Forensic Medicine.*

Operative Surgery.—One very important feature in the final year's work at the medical school is that every student is required to perform a number of operations on the dead body under the supervision of practising surgeons. This excellent instruction is made possible by the school being provided with a plentiful supply of subjects for dissection purposes, a feature of the anatomical department, which, although it has been pointed out before, cannot be too strongly insisted on.

Gynæcology.—The lectures on this subject are delivered twice a week in the two winter terms at the University, and in addition demonstrations on the use of gynæcological instruments and appliances, and on specimens, are arranged with sections of the class. Clinical instruction, as mentioned in the account of the hospitals, is given at the Royal Infirmary and the St. Mary's Hospitals.

Infectious Diseases.—Clinical instruction in infectious diseases is given at the Monsall Fever Hospital, which belongs to the Manchester Corporation. It has accommodation for 450 patients, and all forms of notifiable diseases are admitted to its wards.

Fifth Summer . *Forensic Medicine, Practical Toxicology, Diseases of Children, Skin, Ear, Tropical Diseases, Clinical Work.*

The Forensic Medicine lectures and the **Practical**

Toxicology work afford very thorough instruction in the many possible ways in which medicine may co-operate with law. The practical work, which is given in a special laboratory with accommodation for 40 students, supplements the lecture course, and all students carry out examinations for the detection of blood stains, and of poisons in organic material.

Diseases of Children.—The variations of disease which are met with in children, are dealt with in a series of lectures at the University in the final summer's work, and practical instruction is given at the Children's Hospital and at the St. Mary's Hospitals.

Children's Hospital and Dispensary.—There is no finer or better managed hospital in the kingdom than the Children's Hospital, and it is a source of pleasure, as well as instruction, for any medical man to see over all its departments. The dispensary, recently rebuilt on the most approved plans, is situated in a thickly populated and poor district in the town. Here out-patients only are seen, the beds all being at the hospital, which is at Pendlebury, in a very healthy and open district, some three miles on the north side of the town. The hospital consists of six pavilion wards, all on the ground floor, and contains altogether 168 beds. Students attend at the dispensary, whither patients are taken from the wide area of the neighbouring counties, and there see all varieties of diseases which are incident to children below thirteen years of age. They are also welcomed in the wards at the hospital.

Hospital for Diseases of the Skin.—The instruction in diseases of the skin is given at this important hospital with its large out-patients' department, which has just been erected, with the most modern improvements, in Quay Street, near the centre of the town. In addition to the treatment of ordinary skin diseases, students can see the Finsen light, Röntgen ray, and electrical methods in operation in those special skin affections for which they are of value. There are beds for 30 patients in the hospital.

The **Vaccination** course should be attended at some convenient time in the fifth year.

OTHER HOSPITALS

The SALFORD ROYAL HOSPITAL (135 beds) and ANCOATS HOSPITAL (114 beds) are general hospitals.

Of special hospitals there are the NORTHERN HOSPITAL FOR WOMEN AND CHILDREN (67 beds), the CHRISTIE CANCER HOSPITAL (30 beds), the LOCK HOSPITAL (50 beds) for females only, the EAR AND THROAT HOSPITAL (13 beds), the HOSPITAL FOR CONSUMPTION AND DISEASES OF THE THROAT AND CHEST (50 beds), the JEWISH HOSPITAL, and the COUNTY ASYLUM at Prestwich.

For the research student in medicine, there are several other hospitals in or near the town in which clinical medicine and surgery can be studied with the permission of their various governing bodies.

FOURTH OR FINAL EXAMINATION

The subjects for the fourth or final examination, which is held in March and July of the fifth year of medical study, are medicine, surgery, midwifery and gynæcology, and forensic medicine. Forensic medicine may be taken separately. The three other subjects must be taken together, but candidates are allowed to pass separately in one or two of them, provided they obtain a certain minimum of marks in the subject or subjects in which they pass, and also a certain minimum in that or those in which they fail.

COURSES OF STUDY FOR OTHER DEGREES AND QUALIFICATIONS

Whilst we have followed a student through his years of study for the University of Manchester degree speci-

ally, the same course, with slight variations, is suitable for the requirements of several examining bodies, and many students are trained in the school for other examinations than those of the local University.

The school has been particularly successful in preparing men for the examinations of the London University, and the names of its students frequently appear in the pass lists, and not uncommonly as having gained the highest honours in open competition in the examinations for the degrees of Bachelor of Medicine and of Surgery, Doctor of Medicine, and Master of Surgery of London. Many Oxford and Cambridge undergraduates also learn their clinical work in the Manchester hospitals.

The training required for the Conjoint Examinations of the Royal Colleges of Surgeons and Physicians of London, for the Triple Qualification of Edinburgh and Glasgow, and for the Apothecaries' Hall, is also carefully organised at Manchester, and many students of the school take these diplomas, especially that of the London Conjoint Board, either alone or as a preliminary to a University degree.

Special courses are also arranged for the examination for the Fellowship of the Royal College of Surgeons of London, and Manchester students also frequently are amongst those who are successful in the competitive examinations for the Indian Medical Service.

DOCTOR OF MEDICINE

The degree of Doctor of Medicine was designed to encourage original research, and the first regulations for it were drawn up with this distinct object in view. Until recently it was only awarded to those who had carried out some original observations in the wards or laboratories over a suitable period of time after they had attained the degree of Bachelor. Whilst these requirements undoubtedly resulted in a large amount of excellent research work, and were of great educational

value to men who could spare the time, they bore rather hardly on those who were obliged to settle down in practice immediately after receiving their qualifications, and who were then unable to find time for laboratory work, or to make sufficiently good clinical observations on which to write a thesis of the high standard always required for the degree. Some men also, though very willing to try, are quite without any talent for original observation, and cannot produce a satisfactory thesis, even with efficient supervision and help. Therefore a new set of regulations has been drawn up for candidates who elect to undergo an examination, and the subjects which must be taken, namely, medicine, pathology, and one of several special subjects, are all useful to a practising physician.

PUBLIC HEALTH

The **Public Health Laboratory** was founded for the purpose of prosecuting any work tending to advance knowledge of the causes and prevention of disease, to assist public authorities and practitioners engaged in the prevention, treatment, or control of disease, and for the teaching of public health, State veterinary medicine, and allied subjects to students. The present laboratory has recently been erected and fitted internally after the most approved plans drawn up by its director for the object it was intended to fulfil, and every care was taken to provide the workers with healthy laboratories where they can carry out their work, which is at times dangerous, without unnecessary risk. The rooms are all very large and well ventilated, and the lighting, as can be seen by the accompanying illustrations, is excellent. It is situated within half a mile of the University, and adjoins the Royal Infirmary, for which institution it is intended to carry out such scientific clinical investigation of disease as may fall within the province of the department.

The value of a degree or diploma in public health

PUBLIC HEALTH LABORATORY

PUBLIC HEALTH LABORATORY

(Interior)

is increasing yearly, for there are so many desirable posts for a medical man which are only tenable by those who have such a diploma. Of such posts, the most numerous and important are medical officers of health to the various urban and rural districts and medical officers to Education Committees. As many students prefer the regular life and income of these public offices to the uncertainties of general practice, it is not at all uncommon for the public health course and diploma to be taken very shortly after the qualifying degree has been obtained, probably after some six months or more of experience as resident in a general hospital.

Diplomas in Public Health, D.P.H.—There are two examinations for the University diploma in public health, which may be taken separately or at the same time. For the first, candidates must have held, for not less than twelve months, a registrable qualification in medicine, surgery, and midwifery, and must have attended approved courses of instruction both by lectures and in laboratories for practical work.

For the second examination, certificates are required of attendance, after obtaining a registrable qualification, of not less than three months at the clinical practice of a hospital for infectious diseases, and of having studied public health administration under the supervision of an approved medical officer of health.

Degree of B.Sc. in Public Health.—This degree can be taken after attending the D.P.H. courses, and after spending one year in the study of two of the following subjects: comparative pathology, bacteriology, chemistry, physics, and biology.

Diploma in Veterinary State Medicine, D.V.S.M.—The University has power to grant a diploma in Veterinary State Medicine to men who have been for not less than twelve months members of the Royal College of Veterinary Surgeons, and who have attended the prescribed courses and passed the two examinations for the degree.

There are also courses in the laboratory which are suitable for students in the honours school of chemistry who select sanitary chemistry as a special subject, or for students preparing for examinations including sanitary or biological chemistry. Post-graduate research work is also encouraged at the laboratory.

PHARMACEUTICAL DEGREES

Students are instructed in the pharmaceutical department of the medical school for the Minor and Major examinations of the Pharmaceutical Society of Great Britain, and the courses can be arranged to fit in with the work for the degree of B.Sc. in the University for any student who wishes to obtain both diplomas. Pharmaceutical students can also take the degree of B.Sc. in the honours school of chemistry by attending the prescribed course of study.

DENTAL DEPARTMENT

The dental department of the University forms an integral part of the medical school, and, apart from the science and medical laboratories and rooms which we have referred to in previous pages, and in which dental students take their preliminary scientific courses, it has laboratories and lecture rooms which will bear comparison with those of any other school in the kingdom, specially allotted to the teaching of dental mechanics, metallurgy, prosthetics, histology, surgery, and pathology, &c., of the later years of study.

The University grants three qualifications in dentistry, the Licentiate (L.D.S.), the Bachelor (B.D.S.), and the Master of Dental Surgery (M.D.S.), for all of which, as well as for the Licentiateship of Dentistry of the Royal College of Surgeons and other licensing bodies, special courses of study are arranged.

The necessary general hospital practice is taken at

the Royal Infirmary, and the special dental hospital work at the Manchester Dental Hospital.

Women students are admitted to the classes in the dental department.

The new **Manchester Dental Hospital** adjoins the University, and is in close proximity to the Royal Infirmary. It has been designed with special thought for the training of dental students, and is equipped with all the modern appliances for efficient teaching. It affords extensive accommodation for the treatment of the patients, for filling and other conservative work, and, in addition, is provided with well-equipped laboratories for the teaching and practice of dental mechanics. It has also a fine lecture hall and students' common room, and a museum which includes the valuable collection of specimens belonging to the Manchester Odontological Society, and which the students have the privilege of using.

Two honorary dental surgeons are in attendance each time the hospital is open, and there is also a staff of demonstrators and house surgeons to give the necessary instruction and oversight.

Ten prizes, varying in amount from one guinea to eight pounds, are awarded annually to students of dentistry.

MEDICAL LIBRARY

A very important feature of the medical school is its fine library—the fifth largest in the United Kingdom—of nearly 40,000 volumes, which is jointly maintained by the Manchester Medical Society and the University. *Students* have the right to use the library, and their special requirements are provided for by a section in which are placed all books which are of any value to them in their reading. This section is kept fully up to date by purchases of recent editions of all important text-books, and any proposals of new books, which students are invited to make, are carefully considered

by the library committee, and it can be said without exaggeration that no school in the kingdom has a better undergraduates' library. Whilst much of the students' reading is done in the library, books are allowed to be taken into any of the museums by those who want to read with the specimens before them.

The needs of advanced *research students* are thought of most anxiously, and new books of medical and kindred scientific interest are freely bought. Special attention is paid to the purchase of large and costly books of reference by English, German, and French writers, and the library shelves are full of modern standard works, and of older ones in Latin and Dutch. The latter have been collected over a period of one hundred years, and many of them are very scarce and irreplaceable. For any one engaged in work which requires reference to that of earlier observers, the medical library offers unique attractions, and it is not uncommon for research students in other towns to come to Manchester to work in it, or to write and ask for the loan of a book which they cannot obtain elsewhere.

Whilst a University can attract to its schools by its reputation for the successful preparation of its undergraduates for their qualifying degrees, it must not depend on this alone for its supply of students. For, after all, such a reputation is more or less local and fluctuating, whilst that attained by the encouragement and successful prosecution of original research will draw students from a wider field, and give the University a more undying renown in the history of the achievement of knowledge.

It has, therefore, always been, and still is, a great aim of the University of Manchester to encourage original research by its post-graduate students. As one of the best means of facilitating new work is to have a thorough knowledge of that done in other schools, a very large number of scientific journals are to be seen at the University. The periodical literature in the

medical library, accessible to students in the University, covers a very large field of modern science, and is probably unequalled in any school in England. A complete list of the periodicals taken in would occupy more space than can be spared, but it may be said that all the most important journals in the English, French, and German languages on medical and allied scientific subjects are purchased by the University and the Manchester Medical Society. And not only are the volumes of recent years accessible, but in most cases complete sets from the very beginning are on the shelves, and the policy of the library committee is to purchase volumes which will fill up gaps in those periodicals of which the sets are not complete.

RECREATIONS

Debating Societies.—Perhaps the greatest fault in our modern system of education which has for its distinct object the instillation, in a limited time, of sufficient knowledge to enable students to pass a matriculation examination or take a diploma, is that it does not encourage originality, a characteristic which is of such value to success in after life. For the medical student, however, there is a wholesome corrective to this in the societies of which he is eligible for membership. In the meetings of the biological and medical students' debating societies his originality of thought can have free play—the freer the better—in the reading of papers expounding his own views, or in the criticism of the work and thoughts of his fellow members.

Athletics have always played an important part in English education, not only from the discipline of the playing fields, and the healthy mind in a healthy body points of view, but also because they do so much to foster that spirit of *esprit de corps* which is such an important factor for good in school or university life. When a man puts forth his best energies, not for any

personal gain, but for the benefit and honour of a community that is in the present case his *alma mater*, he is but working for one of those higher ideals which have so much influence on the formation of character, and which have made the English so successful and respected as empire makers and as a governing race.

Therefore the University has provided very liberally for its students' recreations, and in addition to a fine gymnasium, there is a most spacious athletic ground of 12 acres in extent, about two miles from the University, with three plots each 120 yards by 80 yards for Rugby football, association football, and lacrosse, and a cricket field of 40 yards square between two of the football grounds. There are also a hockey ground for the women students, a number of tennis courts, and a running path. A fine pavilion is provided for the wants of the players and their friends.

A company forming part of the Officers' Training Corps, and attached to the 2nd Battalion of the Manchester Regiment of the Territorial Army, and a section of a company in the Royal Army Medical Corps formed from University students, meet the requirements of those men who like this form of healthy exercise and physical training.

University Union.—The meetings of the societies are held in the University Union, or students' club. In the new union building, which has been erected on a scale commensurate with all the other departments of the University, there is separate accommodation for the men's and women's unions, and accommodation for all the allied societies, as well as a refectory, smoke, chess, billiard, reading, and other rooms, which will be open to all members of the University. Students are encouraged to maintain their interest in the Union after the conclusion of their study at the University, for, by mixing with the undergraduates and sharing their recreations, they can help in that social education which is of so much value to young men who are about to

ATHLETIC PAVILION

UNIVERSITY UNION

mix with the world in the prosecution of their various occupations.

ACCOMMODATION FOR STUDENTS RESIDING IN THE TOWN

The natural situation of Manchester in a very thickly populated district, all of which is in convenient train distance, enables most of the students at its University to live at home during their college careers. This lessens the material cost of a University education, and puts it within reach of the more limited purses.

Apartments. — There are, however, many students who wish to reside in the town, and, for their information and guidance, the University prepares a list of apartments in which the price of rooms begins at eight shillings a week for rooms only, and from eighteen shillings a week for rooms and board.

Halls of Residence.—There are also finely equipped halls of residence in connection with the University, all of which are situated within one mile of the University and half a mile of the hospitals in a healthy residential district.

Dalton Hall.—This is the premier hall of residence, having been established in 1876. Though belonging to, and managed by, the Society of Friends in Manchester, it is open to men students of all denominations.

The present building, which was specially designed to fulfil what experience had shown to be the requirements of a hall of residence, was opened in 1882. The hall contains separate studies for fifty-three students. The grounds cover 3½ acres, and contain tennis courts in asphalt, grass, and shale, a covered Rugby fives court, and much grass and shrubbery. A football field is also provided in the neighbourhood. The teaching at the hall is of the nature of private tuition in small classes fitted to individual needs, and about twelve tutors, most

of whom are on the staff of the University, are usually employed in teaching their special subjects.

Hulme Hall, a Church of England institution, though free to men of all denominations, has a substantial endowment from the Hulme Trust estates, a large portion of which is devoted to the maintenance of six scholarships, tenable for three years, and awarded on the basis of the University entrance scholarships examination. The present hall, which was opened in 1907, has separate studies for forty students. The grounds cover about 2½ acres, and comprise fives court, tennis courts, and playing field. There are five tutors, most of whom are on the University staff.

Accommodation for Women Students

Ashburne House and The Oaks.—These halls have been established for the reception of the women students of the University, of whom they can accommodate fifty. They are both well-equipped residential houses with extensive grounds, and are in open, healthy neighbourhoods, at a convenient distance from the University.

Victoria Church Hostel.—This is a Church of England institution, and is intended for women students at the University who are members of the Church. It is on the main road adjoining the Manchester Royal Infirmary and close to the University.

POST-GRADUATE WORK

With the qualification to practise the life of a professional man begins, but that of the student, we hope, does not end, for the University career has practically been but a preparation of the mind for the reception of that knowledge which alone can be gained by practical experience. There is not a better possible culmination to a University training than that of residence in a hospital where, with considerable responsibility, there

DALTON HALL

HULME HALL

is some one always present to help and teach in the difficulties met with in their first experience of the diagnosis and treatment of disease.

Resident Hospital Posts.—At the Royal Infirmary there are fourteen junior resident posts, all tenable for six months, open to students of the Manchester University, and, for practical experience, there are no better junior posts in the kingdom. In holding these posts the house surgeon or house physician meets with as severe types of surgical or medical casualties as he is ever likely to have to deal with in practice, and he has the treatment of many cases himself, or assists in that of the more severe conditions. It is not an uncommon event for four or more urgent abdominal cases to arrive at the hospital in an afternoon and evening, all of which have to be operated on immediately, and by seeing this surgical practice, by the actual operations which he is allowed to do himself under supervision, and by the work in the wards, the house surgeon gains that confidence in his own powers which fits him for more responsible work in other hospitals or private practice. Another post, that of the accident room house surgeon, which is tenable for three months, is also much sought after by men who have recently obtained their degrees.

The posts of house physician afford most valuable experience for responsible practice in the diagnosis and treatment of the severest types of medical ailments, and in the laboratory methods of investigating diseases. In addition to his own work a house physician can, in his spare hours, improve his surgical knowledge by watching the work of his surgical colleagues, whom he frequently assists at operations or by the administration of anæsthetics.

There are also some thirty other paid resident posts in the Infirmary and in the various Hospitals of the town, and many more in the neighbouring districts, which, though not open only to Manchester students, are very frequently occupied by them.

A man who has passed creditably through his student career will most probably get into the Royal Infirmary in a junior resident post for six months, then he may secure a post in the Children's Hospital for twelve months, and afterwards in the St. Mary's Hospitals for six months or more. Such a varied hospital training almost necessarily ensures success in general practice, and a man who has undergone it, and who has shown himself tactful and capable in dealing with his patients and with people generally, has a very good prospect of being taken as an assistant or junior partner by one of the prosperous practitioners in the thickly populated neighbouring districts. Such business arrangements are frequently brought about by the consulting staff of the hospitals, who often hear of a doctor wanting assistance, and who are only too glad to help a deserving younger man to establish himself in practice.

Appointments at the Manchester Royal Infirmary

A Surgical Registrar is appointed annually at £80 per annum.

A Pathological Registrar is appointed annually at £100 per annum.

A Medical Registrar is appointed annually at £70 per annum.

A Surgical Tutor is appointed annually at £30 per annum.

A Director of the Clinical Laboratory is appointed annually at £200 per annum.

Assistant Medical Officers.—One assistant medical officer at £105 per annum, and three assistant surgical officers are appointed annually at £35 per annum each.

An Anæsthetist is appointed annually at £50 per annum.

An Assistant Anæsthetist is appointed annually at £50 per annum.

A Third Anæsthetist is appointed for six months (30 guineas).

An Accident House Surgeon is appointed for three months (20 guineas).

A Medical Officer for home patients is appointed annually at £150 per annum.

Resident

Resident Medical Officer, appointed for one year (£150 per annum).

Resident Surgical Officer, appointed for one year (£150 per annum).

Resident Medical Officer at the Convalescent Hospital at Cheadle, appointed for one year (£150).

Assistant Medical Officer at Cheadle.—An assistant medical officer at the Convalescent Home at Cheadle is appointed every six months at a salary of £80 per annum.

The following unpaid appointments are open to those who have attended the practice of the Infirmary:

House Surgeons.—Five house surgeons are appointed every three months for a term of six months.

House Physicians.—Two house physicians are appointed every three months for a term of six months.

The house surgeons and house physicians and resident assistant at Cheadle must possess a qualification which can be registered.

Appointments at the St. Mary's Hospitals

Resident Surgical Officer is appointed annually, at £100 per annum.

Four House Surgeons appointed every six months (£25).

FELLOWSHIPS, SCHOLARSHIPS, EXHIBITIONS, AND PRIZES

There are several Fellowships, Scholarships, and Exhibitions for competition amongst medical students, both men and women, in different stages of their course.

ENTRANCE SCHOLARSHIPS

Two Entrance Scholarships in Medicine, value £100 each and tenable for one year, are offered annually, one for proficiency in arts and one for proficiency in science.

Dauntesy Medical Scholarships.—Two scholarships are offered of the value of £35 each, and are tenable for one year for students entering for a full course of medical studies in the University.

The Dreschfeld Memorial Scholarship, value £30, and tenable for one year, is offered annually for students entering for the first M.B. course, or for that of the Conjoint Colleges (London).

Robert Platt Physiological Scholarship of £50, tenable for two years, is offered annually for competition to all persons, whether students of the University or not, between 18 and 25 years of age.

Robert Platt Zoological and Botanical Scholarship of the value of £50, tenable for one or two years, is open to zoological or botanical students of the Manchester University or of any other university or college laboratory.

FIRST AND SECOND YEAR STUDENTS

Robert Platt Exhibitions in Physiology.—Two exhibitions of the value of £15 each are offered annually for the competition of first and second years' students in physiology.

Robert Platt Biological Exhibition.—One or more

exhibitions of the value of £15, for the promotion of the study of biology.

Sidney Renshaw Exhibition in Physiology.—An exhibition of the value of £15 is offered annually for the competition of students in physiology.

Professor Tom Jones Exhibition in Anatomy, of the value of £25, for first year's students in anatomy.

University Prize in Medicine.—At least one prize of £25 is offered on the results of the Second Examination for the degree of M.B., Ch.B.

FINAL YEAR

Graduate Scholarship in Medicine.—One of £25 to £50, tenable for one year, is open to candidates who have obtained First Class Honours in the Final Examination for the degree of M.B. and Ch.B.

Dumville Surgical Prize, value £15, for senior students.

Turner Medical Scholarship, of the value of £20, for University students of not less than four nor more than five years' standing.

John Henry Agnew Scholarship, value about £20. Subject: Diseases of Children.

The Bradley Memorial Scholarship in Clinical Surgery, of the value of £20, for students in their fifth or sixth year of study.

Medical Clinical Prize, value six guineas, for senior students.

Surgical Clinical Prize, value six guineas, for senior students.

Gold medals are awarded for dissertations of sufficient merit, and also to candidates who distinguish themselves in the examination for the degree of M.D.

Medals and certificates are awarded on the results of the class examinations of most of the subjects in the medical curriculum at the University.

POST-GRADUATE

Professor Tom Jones Memorial Surgical Scholarship, value £100, tenable for one year, is offered for competition triennially only.

Leech Fellowship.—One of £100 awarded annually for excellence and promise in one or more of the subjects of the fourth or final M.B. examination.

Junior Research Fellowships in Public Health.—Two junior research fellowships of the value of £50 each will be offered annually. One to candidates who have passed the first part of the examination for the diploma of public health of the University of Manchester, and the other to candidates who have obtained the degree of M.B. in the University of Manchester. If there should be no candidate for one of the above fellowships, both may be awarded to candidates for the other.

Honorary Research Fellowships, tenable for two years, conferring the right of free use of the University laboratories, awarded generally in October, on application, with evidence of capacity for independent investigation.

FEES.

The total cost of the University and Hospital Education at Manchester, including the necessary apparatus and chemicals, is approximately :—

Medical—

For the	M.B., Ch.B. (Manc.) course	£147
„ „	M.B., B.S. (Lond.) „	£147
„ „	M.R.C.S., L.R.C.P. (Lond.) course . .	£135

Dental—

For the	L.D.S. (Manc.) course	£170
„ „	B.D.S. (Manc.) „	£212
„ „	L.D.S. (Lond.) „	£177

Further particulars as to courses, examination fees, etc., are given in the Medical Prospectus, which will be forwarded on application.

APPENDIX

THE VICTORIA
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Chancellor—The Right Hon. the Viscount Morley of Blackburn, O.M.

Vice-Chancellor—Alfred Hopkinson, K.C., M.A., LL.D., B.C.L.

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Dean—William Stirling, M.D., D.Sc., LL.D.

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Physiology and Histology . . .	Brackenbury Professor—Wm. Stirling, M.D., D.Sc. (Edinburgh), LL.D. (Glasgow). Demonstrators—F. W. J. A. Lamb, M.D. (Dublin); A. E. Woodall, M.B., Ch.B. (Manchester).
Physics	Langworthy Professor and Director of the Physical Laboratories—Ernest Rutherford, B.A. (Cambridge), M.A., D.Sc. (New Zealand), Ph.D. (Giessen), F.R.S. Honorary Professor—Arthur Schuster, Sc.D. (Cambridge), Ph.D. (Heidelberg), M.Sc. (Manchester), F.R.S. Reader in Mathematical Physics—H. Bateman, B.A. (Cambridge), (Fellow of Trinity College, Cambridge). Demonstrator and Lecturer in Electro-Technics—Robert Beattie, D.Sc. (Durham), M.I.E.E. Demonstrator and Assistant Lecturer—W. Makower, B.A. (Cambridge), B.Sc. (London), (late John Harling Fellow). Demonstrators—Sidney Russ, B.Sc. (London); Herbert Stansfield, B.Sc. (London). Lecturer in Mechanics and Demonstrator in Physics—J. E. Petavel, M.Sc. (Manchester), F.R.S. (late John Harling Fellow). Special Lecturer in Electro-Chemistry—R. S. Hutton, D.Sc. (Manchester). Demonstrator in Electro-Chemistry—J. N. Pring, M.Sc. (Manchester). Lecturer in Meteorology—J. E. Petavel, M.Sc., F.R.S. Observer in Meteorology—Travis Rimmer, M.Sc. (Manchester).

THE VICTORIA UNIVERSITY OF MANCHESTER—(*Continued*)

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Clinical Surgery	Professor F. A. Southam, M.A., M.B. (Oxford), F.R.C.S.
Surgical Pathology	Lecturer—W. Thorburn, M.D., B.S. (London), F.R.C.S.
Practical Surgery	Lecturer—J. E. Platt, M.S. (London), F.R.C.S.
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E. M. Brockbank, M.D., F.R.C.P.
E. N. Cunliffe, M.D., M.R.C.P.

Gynæcological Surgeon.
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J. E. Platt, F.R.C.S.

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J. Howson Ray, F.R.C.S.

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A. Hill Griffith, M.D.

Aural Surgeon.
W. Milligan, M.D.

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Resident Surgical Officer.
H. H. Rayner, F.R.C.S. (Eng.).

Resident Superintendent of the Royal Lunatic Hospital at Cheadle.
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Surgical Tutor.
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C. C. Heywood, M.A., M.R.C.P.

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Chas. Roberts, M.B., B.S., F.R.C.S.

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Surgeons.
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F. A. Southam, M.B., F.R.C.S.
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Pathologist.
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Surgeon for Women.

Arnold W. W. Lea, M.D., B.S., F.R.C.S.

Physician.

J. J. Cox, M.D.

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HONORARY MEDICAL STAFF.

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J. Garvie McNaughton, M.D., M.R.C.P.E.

Surgeons.

P. Tytler, M.D., C.M.
E. Stanmore Bishop, F.R.C.S.
Garnett Wright, F.R.C.S.
A. E. Barclay, M.B., in charge of Electro-therapeutic Department.

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